

Bellwork: 4/4/13

Simplify the following expression:

$$1) \frac{4x}{x^2+2x-15} + \frac{3x}{x^2-9x+18}$$

$$(x+5)(x-3) \mid (x-3)(x-6)$$

LCD: $(x-3)(x+5)(x-6)$

$$\frac{4x(x-6)}{(x+5)(x-3)(x-6)} + \frac{3x(x+5)}{(x-3)(x-6)(x+5)}$$

$$4x^2 - 24x + 3x^2 + 15x = \frac{7x^2 - 9x}{(x+5)(x-3)(x-6)}$$

Example 3: $\frac{3x}{3x^2+x-2} + \frac{x+1}{3x^2+10x-8} - \frac{4}{3x-2}$

$$(3x-2)(x+1) \mid (3x-2)(x+4) \mid (3x-2)$$

LCD: $(3x-2)(x+1)(x+4)$

$$\frac{3x(x+4)}{(3x-2)(x+1)(x+4)} + \frac{(x+1)(x+1)}{(3x-2)(x+4)(x+1)} - \frac{4(x+1)(x+4)}{(3x-2)(x+1)(x+4)}$$

$$3x^2 + 12x + x^2 + 2x + 1 - 4(x^2 + 5x + 4)$$

$$\cancel{3x^2} + \cancel{12x} + \cancel{x^2} + \cancel{2x} + 1 - \cancel{4x^2} - \cancel{20x} - 16$$

$$\frac{-10x - 15}{(3x-2)(x+1)(x+4)}$$

HW - pg 7 of packet
7 + 8

